**EEBL 606 Phylogenetics and Comparative Biology**

**Day:** MW (Feb 6 – Feb 25) **Location:** ILSB 3145
**Time:** 2:00-3:15 **Number of Credits:** 1

**Instructors:**
Dr. David Bapst, Dept. of Geology and Geophysics, Room 169, Halbouty,
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Dr. Heath Blackmon, Dept. of Biology, Room 309, Biological Sciences West Building,
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**E-mail will be the primary means of communication for the course.** Check your email often and keep your mailbox below quota!

**Course prerequisites:** Graduate classification.

**Course description:** This sixth component of the Core Sequence in Ecology & Evolutionary Biology examines phylogenetics and comparative biology. It is a basic overview of these fields; fundamental concepts and their applications in research of natural populations.

**Course requirements:**

- Attend all lectures. Absences for previously scheduled activities will only be excused if they are communicated well in advance. If you have not discussed an absence with the instructor ahead of time, it will be considered unexcused unless proper documentation is provided. See http://student-rules.tamu.edu/rule07.
- Read all required material, and complete assigned homework.
- Participate actively in discussions.

**Course goals:** The goal of this course is to provide an introduction to a few key issues central to the field of phylogenetics and comparative biology. Examples will be drawn from studies involving plants and animals, as well as the interactions between these organisms.

**Grading:** Letter grades will be assigned based as follows: participation related to in-class discussion: 25%; homework assignment: 50%; online quiz: 25%.

**Grade scale:** 90-100 A; 80-89 B; 70-79 C; 60-69 D; < 60 F

**Americans with Disabilities Act (ADA):** The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the

Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit http://disability.tamu.edu.

**Academic Integrity:** For additional information please visit: http://aggiehonor.tamu.edu. Please pay close attention to guidelines on avoiding plagiarism: http://aggiehonor.tamu.edu/Descriptions/Plagiarism.aspx.

***"An Aggie does not lie, cheat, or steal, or tolerate those who do."***

## SUGGESTED ADDITIONAL READINGS

Wiley, E. O., & Lieberman, B. S. (2011). *Phylogenetics: theory and practice of phylogenetic systematics*. John Wiley & Sons.

Harvey, P. H., & Pagel, M. D. (1991). *The comparative method in evolutionary biology* (Vol. 239). Oxford: Oxford university press.

Morlon, H., 2014. Phylogenetic approaches for studying diversification. *Ecology Letters*, *17*(4), pp.508-525.

## LECTURES

1. **History of systematics and phylogenetic stepping stones** (Bapst: Feb 6 & Feb 11)
2. **Molecular phylogenetics** (Song: Feb 13 & Feb 18)
3. **Diversification analyses** (Blackmon: Feb 20 & Feb 25)

**Written assignment associated with assigned reading.** One or two papers will be assigned for each Monday lecture. We will discuss these papers in class. For one of the assigned papers, students will do the following: (1) identify the three key take-home messages (no more than 100 characters for each take-home message), (2) write a 200 word summary, (3) identify the paper's biggest strength (4-5 sentences) and (4) its biggest weakness (4-5 sentences). **This write-up must be submitted to the instructor by eCampus no later than 8 am on the Monday the paper will be discussed.**

**A computer take-home quiz** will be available through eCampus by noon the day following a lecture and will be due before the start of class the day of the discussion (next Monday).